

Information on German Laboratories for the “Young Investigator Training Program - Lab Visits” during the FENS Forum 2018

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1)	Molecular Pharmacology Head: Prof. Dr. Volker Haucke	Berlin	Molecular cell biology of synapse function: (1) How is the presynaptic compartment assembled and what organelles deliver presynaptic vesicle and active zone proteins? (2) How are synaptic vesicles recycled and how do defects in this process affect neurotransmission and behavior? Techniques: optical live imaging; neuronal cultures incl. iPS derived neurons; electrophysiology; mouse behavior	Leibniz Forschungsinstitut für Molekulare Pharmakologie (FMP) Berlin-Buch Robert-Rössle-Str. 10 13125 Berlin	June 8 – July 6 (18 days)	www.leibniz-fmp.de/haucke	1	Free lodging on the campus
2)	Proteostasis in Aging and Disease Head: Dr. Janine Kirstein	Berlin	Analysis of molecular chaperones and their role in ameliorating neurodegenerative diseases. We analyse the activity of specific chaperone and chaperone complexes <i>in vitro</i> , in cells (HEK, HeLa and HD-patient derived NPCs) as well as in a nematode model (<i>C. elegans</i>) expressing human amyloid proteins such as Htt, α -synuclein, tau, TDP-43 and Abeta1-42. We aim to understand how chaperones recognize amyloid proteins and how they can disaggregate amyloid fibrils or suppress the fibrilization.	Leibniz Institute for Molecular Pharmacology (FMP) Berlin-Buch Robert-Rössle-Strasse 10 13125 Berlin	July 12 – 22, 2018 (10 days)	http://www.fmp-berlin.de/kirstein	2	
3)	Medical Psychology/Psychobiology Head: Prof. Dr. Christine Heim	Berlin	Developmental Programming of Health and Disease, Longterm Consequences of Early-Life Adversity, Pre- and Postnatal Stress Effects, Transgenerational Transmission. We focus on clinical studies and apply neuroendocrine, immune, metabolic measures, neuroimaging and molecular markers.	Institute of Medical Psychology, Hufelandweg, Luisenstr. 57, 10117	July 12-26 (14 days)	www.med-psych.charite.de	1	
4)	Clinical Neuroimmunology Group & Neurodiagnostics laboratory Head: Prof. Dr. Friedemann Paul	Berlin	The afferent visual system in multiple sclerosis and related disorders: (1) Quantification of neuro-axonal retinal damage with optical coherence tomography; (2) Evaluating optic radiation integrity with diffusion tensor imaging-based tractography	NeuroCure Clinical Research Center, Charité – Universitätsmedizin, Sauerbruchweg 5, 10117Berlin	14 days, June or July 2018 (flexible)	www.ncrc.de www.neurodial.de	1	

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5)	AG Lehnardt Neuroimmunology and Neurodegeneration Head: Prof. Dr. Seija Lehnardt	Berlin	We are active in the field of experimental and clinical neurosciences. In particular, we focus on -Immunological aspects of neurodegenerative/neuroinflammatory diseases -Cell-autonomous mechanisms in neurodegeneration -Biology of the microglia -Role of immune pathways in brain development	Charité-Universitätsmedizin Berlin, Institute of Cell Biology and Neurobiology and Department of Neurology Chariteplatz 1 10117 Berlin	Monday, July 12 – Thursday, July 26 (15 days)	http://www.neurocure.de/ueberneurocure/mitglieder.html https://cbn.charite.de/en/metabasstelle/	1	
6)	Clinical Neurosciences Head: Prof. Dr. Andreas Meisel	Berlin	Stroke induces local inflammatory reaction and suppression of immune responses in the periphery. Using mouse MCAo model, mouse bronchoscopy and various immunological techniques, we investigate approaches to prevent/treat stroke-associated infections. Additionally, we focus on microglia/lymphocyte responses and explore the role of CNS resident and peripheral immune cells for functional outcome after cerebral ischemia.	Department of Experimental Neurology, Charitéplatz 1, 10117 Berlin	July 12 – 26, 2018 (14 days)	https://expneuro.charite.de/en/research/research_teams/clinical_neuroscience/	1	Travel support or small salary
7)	Molecular Neuroscience and Biophysics Head: Prof. Dr. Andrew Plested	Berlin	Glutamate receptor ion channels of fast chemical synapses. We use electrophysiology, molecular biology, biochemistry, structural biology, fluorescence microscopy to study receptors and synapses in vitro, in cell cultures and in brain slices.	Leibniz-Forschungsinstitut für Molekulare Pharmakologie, Berlin-Buch Robert-Rössle-Str. 10 13125 Berlin	2 – 3 week before July 6, or after July 11, 2018.	www.fmp-berlin.de/plested	2	
8)	Neuroepigenetics Head: Prof. Dr. Ferah Yildirim	Berlin	We investigate epigenetic, transcriptional and posttranscriptional regulatory mechanisms of neuronal gene expression in brain disease. Our current research efforts include: i) Profiling epigenetic and transcriptional mechanisms of neuronal vulnerability in disease, ii) Pre-clinical testing of new therapeutic targets in Huntington's disease, iii) Linking gene expression programs to neuronal function and morphology by single cell RNA sequencing.	Charité – Universitätsmedizin Berlin Department of Neuropsychiatry & NeuroCure Charitéplatz 1, Virchowweg 6 10117 Berlin	July 12 – July 27 12 business days	http://yildirimlab.neurocure.de/home.html	2	
9)	Human Neuroimaging Head: Prof. Dr. John-Dylan Haynes	Berlin	Introduction to analysis of functional magnetic resonance imaging (fMRI) signals: (1) Design of general linear model; (2) Model estimation; (3) Statistical thresholding.	Charité – Universitätsmedizin Berlin, Campus Mitte, Bernstein Center for Computational Neuroscience, Berlin Mitte, Philippstr.13, Haus 6, 10115 Berlin	June 18 – July 6 (18 days)	https://sites.google.com/site/hayneslab/home	1	

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10)	Cognitive Neurobiology Head: Prof. Dr. York Winter	Berlin	Analysis of behaviour: mice, rats, bats. Topics: learning, memory, decision making, motor functions	Institut fuer Biologie, Philippstrasse 13, 10115 Berlin	Two weeks before the FENS	www.winterlab.org	2	
11)	Department of Neurodegenerative Diseases and Gerontopsychiatry Head: Prof. Dr. Michael Heneka	Bonn	The role of innate immune response in Alzheimer's disease (AD), Parkinson's disease (PD) and Fronto-Temporal-Dementia (FTD): 1, Interaction between glia and neuronal networks 2, The role of inflammasome in the development of neurodegenerative diseases 3, Preclinical animal models of Alzheimer's disease, amyotrophic lateral sclerosis and septic encephalopathy	University of Bonn Medical Center Clinic Of Neurodegenerative Diseases and Gerontopsychiatry Sigmund-Freud-Str.25. 53125 Bonn	Jun8 18 – July 6 (15 days)	http://www.henekalab.com/index.php/de/	1	
12)	Cellular Neurosciences; University of Bonn Head: Prof. Dr. Christian Steinhäuser PI: Prof. Dr. Christian Henneberger	Bonn	(1) Analyses of neuron-astrocyte interactions in the epileptic brain; do dysfunctional astrocytes cause temporal lobe epilepsy? (2) How do astrocytes and NG2 glial cells communicate with neurons? We use patch clamp analyses combined with 2-photon imaging and single-cell RT-PCR in acute brain slices to perform structure-function analyses.	University of Bonn, Medical Faculty, Institute of Cellular Neurosciences, Sigmund-Freud-Str. 25, 53105 Bonn	June 18 – July 5 (18 days)	https://www.izn.uni-bonn.de	2	
13)	Cellular Neurosciences Head: Prof. Dr. Martin Korte	Braunschweig	Learning, memory and forgetting, in particular the role of neurotrophins for synaptic plasticity; the function of APP in synaptic physiology and loss of balance between homeostasis and plasticity in processes of neuroinflammation and neurodegeneration with a particular focus on microglia cells	TU Braunschweig, Zoologica Institute, Div. Cellular Neurobiology, 38106 Braunschweig	June 18 – July 6 (18 days)	http://www.zoologie.tu-bs.de/index.php/de/zellulaere-neurobiologie/zellulaere-neurobiologie-research	2	

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14)	Neurobiology Head: Prof. Dr. Christine R. Rose	Düsseldorf	Astrocyte function, ion regulation and neuron-glia interaction at developing and mature synapses in mouse brain under physiological and pathophysiological conditions. Main techniques: <ul style="list-style-type: none"> • high-resolution fluorescence imaging (confocal/2-photon/wide-field imaging of sodium and calcium) • electrophysiology (patch-clamp, ion-selective microelectrodes) • Immunocytochemistry/Immunoblots 	Institute of Neurobiology, Heinrich Heine University, Building 26.02.00, Universitätsstrasse 1, 40225 Düsseldorf	July 12 – 27 (16 days)	http://www.neurobiologie.hhu.de/	1	Free lodging on the campus (if available), alternatively travel reimbursement
15)	Systems Neuroscience Head: Prof. Dr. Siegrid Löwel	Göttingen	The Löwel lab is focussed on understanding the experience-dependent development and plasticity of neuronal circuits in the mammalian cortex. We combine behavioral analyses with imaging/recordings of neuronal activity and structure to explore how experience and learning influence nerve cell circuits in the healthy and diseased brain.	Department of Systems Neuroscience Georg-August-Universität Göttingen Von-Siebold-Str. 6 37075 Göttingen	June 18 – July 6, 2018 (18 days)	http://systemsneuroscience.uni-goettingen.de/	1	salary for student assistant
16)	Division of Neurophysiology Head: Prof. Dr. Christian Lohr	Hamburg	Cell physiology of glial cell function and sensory information processing: 1) Role of glial cells in synaptic transmission and neurovascular coupling (calcium imaging, immunohistology). 2) Purinergic signaling in odor information processing (patch clamp recordings).	Institute of Zoology University of Hamburg Martin-Luther-King-Pl. 3 20146 Hamburg	July 12 – 27, 2018 (16 days)	https://www.biologie.uni-hamburg.de/biozentrum-grindel/forschung/np-lohr.html (in German only)	1	Free lodging in the guest house (if available)
17)	Cellular Neurophysiology Head: Prof. Dr. Jens Rettig	Homburg	Formation and function of synapses: (1) Molecular mechanisms of exo- and endocytosis of cytotoxic granules in T cells; Methods: STED microscopy, SIM, TIRF microscopy, electron microscopy, electrophysiology, molecular and cell biology methods. (2) Function of cytotoxic T lymphocytes in vivo; Methods: 2P-microscopy, killing assays. (3) Catecholamine release from adrenal chromaffin cells; Methods: Patch-clamp, capacitance measurements, amperometry, calcium measurements.	Saarland University Center for Integrative Physiology and Molecular Medicine (CIPMM) Building 48 66421 Homburg	June 18 – July 6 (18 days)	https://cipmm.uni-saarland.de/index.php/en/physiology/ag-rettig	1-2	Free lodging on the campus eventually possible for one person
18)	Molecular Neurobiology Head: Prof. Dr. Frank Zufall	Homburg	Mammalian olfaction is composed of a variety of subsystems that rely on distinct sensory neurons. Activation of specific neurons initiates a process of neural recognition that can influence hormonal state and behavior. We use an integrative, multidisciplinary approach (molecular biology, optical and electrophysiological recordings, behavioral analysis) to decipher such olfactory subsystems.	Center for Integrative Physiology and Molecular Medicine (CIPMM) Kirrberger Str. 100, Building 48 66421 Homburg	Monday, June 18, 2018 - Thursday, July 6, 2018 (19 days)	https://www.integrative-physiology.eu/molecular-neurobiology/	1	Free lodging on the campus

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19)	Molecular Physiology Head: Prof. Dr. Frank Kirchhoff	Homburg	Our research focuses on the molecular and cellular mechanisms of neuron-glia interaction in the central nervous system. We are pursuing two main research questions: (1) How do glial transmitter receptors sense and modulate synaptic transmission? What is the impact for living organisms? (2) How do glial cells respond to acute injuries within the central nervous system? For functional analysis we generated transgenic mouse models with cell-type specific expression of fluorescent proteins and inducible gene deletion. We are applying a combination of biochemical and molecular biological methods together with imaging techniques such as two-photon laser-scanning microscopy (2P-LSM) oder CCD imaging.	Center for Integrative Physiology and Molecular Medicine (CIPMM) University of Saarland 66421 Homburg	July 12 – July 20, 2018 (8 days)	http://www.kirchhoff-lab.de	3	
20)	Neurobiology Head: Prof. Dr. Otto W. Witte	Jena	Structural and functional alteration of the diseased and aged brain: (1) how does microglia aging contribute to cognitive impairment (2) how does aging influence neural stem cell activity and neurogenesis in the dentate gyrus (3) how does ischemic stroke alter regulation of brain blood flow (4) how do autoimmune diseases affect synaptic plasticity (5) how does unscheduled cell cycle re-entry influence neuronal senescence	Hans-Berger Department of Neurology Am Klinikum 1 07747 Jena	June 25 - July 6, 2018 (10 days)	http://www.neuro.uniklinikum-jena.de/Neurologie.html	2	Free lodging
21)	Animal Physiology Head: Prof. Dr. Eckhard Friauf	Kaiserslautern	Neurotransmission at fast auditory synapses. Patch-clamp recordings. Intracellular dye injections.	Technische Universität Kaiserslautern Biologie / Tierphysiologie Erwin-Schrödinger-Str. 67663 Kaiserslautern	June 18 – July 6, 2018 (18 days)	https://www.bio.uni-kl.de/tierphysiologie/aktuelles/	3	Lodging on the campus
22)	Institute of Anatomy Head: Prof. Dr. Ingo Bechmann	Leipzig	Brain morphology in health and disease (with focus on neurons, glial cells and vasculature): - life imaging - confocal laserscanning microscopy - electron microscopy - histology - immunocytochemistry	Institute of Anatomy Medical School, University of Leipzig Liebigstr. 13, 04103 Leipzig	June 25 – July 6, 2018 (12 days)	http://anatomie.medizin.uni-leipzig.de	2	Free lodging on the campus
23)	Cellular Neurosciences Head: Prof. Dr. Carsten Duch	Mainz	Development and Function of Motor Circuits in the Drosophila CNS (1) molecular and cellular mechanisms of motor neuron dendrite growth; (2) ion channel function in adaptive motor control; (3) neuronal structure function relationships.	Institute of Developmental Biology and Neurobiology, Johannes Gutenberg University Mainz Col. Kleinmann Weg 2. 55099 Mainz	June 8 – July 6, 2018 (18 days)	http://www.bio.uni-mainz.de/zoo/abt3/436.php	1	

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24)	Institute of Physiology Head: Prof. Dr. Heiko J. Luhmann	Mainz	Development, function and plasticity of the mouse cerebral (barrel) cortex: (1) Role of early neuronal activity patterns in cortical development and control of programmed cell death; (2) role of GABAergic interneurons in sensory cortical processing; (3) chloride regulation and E-I shift of GABA in early development.	Institute of Physiology University Medical Center Mainz Duesbergweg 6 D-55128 Mainz	June 18 - July 6, 2018 (18 days)	http://www.unimedizin-mainz.de/physiologie/startseite.html	2	Free lodging (if possible on campus)
25)	Systems Neurobiology Head: Prof. Dr. Benedikt Grothe	Martinsried (near Munich)	We use a comparative approach investigating animals living in different 'auditory worlds' (high frequency specialists like bats; models for ancient mammalian hearing like short tailed opossums; low frequency specialists like gerbils; mice and rats as "standard" models for hearing in modern placental mammals. Additionally, we are using transgenic mice to study developmental mechanisms	Ludwig-Maximilians-Universität München Department Biologie II Grosshadernerstr. 2 D- 82152 Planegg-Martinsried	June 26 – July 6, 2018 (10 days)	http://neuro.bio.lmu.de/research_groups/res-grothe_b/index.html http://www.neuro.mpg.de/grothe	1	
26)	Molecular and Translational Neuroscience Head: Prof. Dr. Leda Dimou	Ulm	Our research focus is on oligodendrogenesis and specifically in the function and differentiation potential of NG2-glia in the adult brain. Using fate mapping, transplantation techniques, MACS, transcriptome analysis and in vivo 2-photon microscopy we are studying the behavior and potential of NG2-glia under physiological and pathological conditions.	Molecular and Translational Neuroscience Ulm University N27, Albert-Einstein-Allee 11 89081 Ulm	June 18 – July 5, 2018 (14 days) or July 12 – July 27, 2018 (12 days)		1-2	Maybe: Free lodging in a guest apartment
27)	Developmental Neurobiology Head: Prof. Dr. Rudolf Martini	Würzburg	Role of the innate and adaptive immune system during the pathogenesis of inherited disorders of the peripheral and central nervous system in mice. 1) Histopathology of glia and axons: Immunocytochemistry, light- and electron microscopy, retrograde labelling 2) Identification of immune cells: immunocytochemistry, (immuno)electron microscopy, flow cytometry 3) Clinical and physiological analysis of disease: rotarod-analysis, optical coherence tomography, electrophysiology	University Hospital of Würzburg, Department of Neurology, Developmental Neurobiology, Josef-Schneider-Str. 11 97080 Würzburg	approx 2-3 weeks, will be specified	https://www.wurzburg-neuroscience.de/martini	2-3	small salary